

LISTING OF THE CLAIMS

Please find the current listing of the claims as follows:

Claim 1 (Previously Presented): A method of forming an in-situ filter for controlling flowback of proppants injected into a fracture of a subterranean formation comprising the step of injecting a spring into the fracture.

Claim 2 (Previously Presented): The method of forming an in-situ filter according to claim 1 further comprising the steps of compressing the spring and inserting it into a mass of a fibrous network before the step of injecting the spring into the fracture.

Claim 3 (Previously Presented): The method of forming an in-situ filter according to claim 2 further comprising the step of placing the compressed spring and fibrous network into a mold cavity after the steps of compressing the spring and inserting it into the mass of the fibrous network.

Claim 4 (Previously Presented): The method of forming an in-situ filter according to claim 3 further comprising the step of injecting an aqueous soluble mixture into the mold cavity after the step of placing the compressed spring and fibrous network into the mold cavity.

Claim 5 (Previously Presented): The method of forming an in-situ filter according to claim 4 further comprising the step of curing the aqueous soluble mixture until it forms a solid structure, which encapsulates the compressed spring and fibrous network, after the step of injecting an aqueous soluble mixture into the mold cavity.

Claim 6 (Previously Presented): The method of forming an in-situ filter according to claim 5 further comprising the step of removing the solid structure containing the compressed spring and fibrous network from the mold cavity after the step of curing the aqueous soluble mixture until it forms the solid structure.

Claim 7 (Previously Presented): The method of forming an in-situ filter according to claim 6 further comprising the step of mixing the solid structure containing the compressed spring and fibrous network with a proppant slurry after the step of removing the solid structure containing the compressed spring and fibrous network from the mold cavity.

Claim 8 (Previously Presented): The method of forming an in-situ filter according to claim 7 further comprising the step of injecting the mixture of the solid structure containing the compressed spring and fibrous network and the proppant slurry into the fracture after the step of mixing the solid structure containing the compressed spring and fibrous network with the proppant slurry.

Claim 9 (Previously Presented): The method of forming an in-situ filter according to claim 8 further comprising the step of dissolving the soluble mixture forming the solid structure after the spring has been injected into the fracture thereby releasing the spring from the compressed state, which together with the fibrous network form the in-situ filter after the step of injecting the mixture of the solid structure containing the compressed spring and fibrous network and the proppant slurry into the fracture.

Claim 10 (Currently Amended): An in-situ filter for controlling flowback of proppants comprising:

a network of fibrous material[;]; and
~~a plurality of interspersed springs[,] wherein the springs are clock springs and a plurality of elongated members are attached at one end to each clock spring, and an aqueous soluble mixture.~~

Claim 11 (Original): The in-situ filter according to claim 10 wherein the fibrous network comprises materials selected from the group consisting of stainless steel wool, a composite fibrous sponge and combinations thereof.

Claim 12 (Canceled):

Claim 13 (Canceled):

Claim 14 (Currently Amended): The in-situ filter according to claim ~~13~~ 10 wherein ~~an other~~ another end of the plurality of elongated members are anchored by, and attached to, a ball.

Claim 15 (Original): The in-situ filter according to claim 14 further comprising a flexible filter sheath attached to each spring and associated elongated members.

Claim 16 (Currently Amended): The in-situ filter according to claim 13 10 wherein the springs comprise at least one of the following: a stainless steel wire or a composite polymer.

Claim 17 (Original): The in-situ filter according to claim 15 wherein the flexible filter sheath is formed of a stainless woven wire cloth having a mesh size greater than 60-mesh.

Claim 18 (Previously Presented): A system for controlling flowback of proppants injected into a fracture of a subterranean formation comprising a plurality of encapsulated compressed springs placed in the fracture adjacent to a wellbore formed within the subterranean formation.

Claim 19 (Previously Presented): The system for controlling flowback of proppants according to claim 18 wherein a mass of fibrous material is encapsulated with the compressed springs.

Claim 20 (Previously Presented): The system for controlling flowback of proppants according to claim 19 wherein an aqueous soluble mixture comprising a filler material is encapsulated with the compressed springs.

Claim 21 (Original): The system for controlling flowback of proppants according to claim 20 wherein the filler material comprises glycerin, wintergreen oil, oxyzolidine oil and water.

Claim 22 (Original): The system for controlling flowback of proppants according to claim 20 wherein the aqueous soluble mixture further comprises an adhesive.

Claim 23 (Original): The system for controlling flowback of proppants according to claim 22 wherein the adhesive comprises collagen.

Claim 24 (Previously Presented): The system for controlling flowback of proppants according to claim 20 wherein the aqueous soluble mixture dissolves under downhole conditions causing the compressed springs to be released from the encapsulated state and expand to form an in-situ filter in the fracture adjacent to the wellbore.

Claim 25 (Original): The system for controlling flowback of proppants according to claim 24 wherein the aqueous soluble mixture dissolves in approximately 3 to 8 hours.

Claim 26 (Original): The system for controlling flowback of proppants according to claim 24 wherein the aqueous soluble mixture dissolves in temperatures greater than approximately 55 °C.

Claim 27 (Previously Presented): The system for controlling flowback of proppants according to claim 18 wherein each of the compressed springs comprises at least one spring selected from the group consisting of a torsion spring, a compression spring, an open coil spring, a helical spring and a clock spring.

Claim 28 (Original): The system for controlling flowback of proppants according to claim 27 wherein the springs are clock springs and a plurality of elongated members are attached at one end to each clock spring.

Claim 29 (Original): The system for controlling flowback of proppants according to claim 28 wherein the other end of the plurality of elongated members are anchored by, and attached to, a ball.

Claim 30 (Original): The system for controlling flowback of proppants according to claim 29 further comprising a flexible filter sheath attached to each spring and associated elongated members.

Claim 31 (Original): The system for controlling flowback of proppants according to claim 28 wherein the elongated members are formed of a material selected from the group of a stainless steel wire and a composite polymer.

Claim 32 (Original): The system for controlling flowback of proppants according to claim 30 wherein the flexible filter sheath is formed of a stainless woven wire cloth having a mesh size greater than 60-mesh.